

BAB 6

KESIMPULAN DAN SARAN

6.1 KESIMPULAN

Berdasarkan penelitian mengenai Pengaruh Pemberian Sambiloto (*Andrographis paniculata*) Terhadap Pencegahan Perlemakan Hati Tikus *Sprague Dawley* Yang Diberi Perlakuan Aterogenik didapatkan kesimpulan sebagai berikut:

1. Perlakuan aterogenik yang terdiri dari pemberian PTU, asam kolat, diet tinggi lemak dan asap rokok dapat menyebabkan perlemakan hati.
2. Terdapat pengaruh pemberian ekstrak sambiloto (*Andrographis paniculata*) terhadap perlemakan hati pada tikus *Sprague Dawley* yang diberikan perlakuan aterogenik yaitu menghambat progresivitas perlemakan hati dan derajat keparahan perlemakan hati.

6.2 SARAN

Berdasarkan hasil yang telah diperoleh pada penelitian ini dapat dilanjutkan berbagai penelitian yang mendukung antara lain:

1. Pemberian sambiloto dengan dosis yang berbeda untuk melihat dosis yang paling efektif yang dapat mencegah perlemakan hati.
2. Penelitian yang memperjelas mekanisme cara kerja sambiloto terhadap pencegahan progresivitas derajat perlemakan hati.
3. Penelitian mengenai efek samping/toksisitas daun sambiloto.

DAFTAR PUSTAKA

1. Dowman JK, Tomlinson JW, Newsome PN. *Systematic review: the diagnosis and staging of non-alcoholic fatty liver disease and non-alcoholic steatohepatitis Aliment Pharmacol Ther.* 2011; 33: 525-540.
2. Philip Abraham, Subrat Kumar, Deepak Amarapurkar, Philip Augustine,Y,K,Chawla, Gourda Choudhuri, et al., editors. *Non-Alcoholic Fatty Liver Disease-ECAB.* India: Elsevier; 2010.
3. Lesmana LA. *Penyakit Perlemakan Hati Non-Alkoholik (Non-Alcoholic Fatty Liver Disease).* In: Sulaiman A, Akbar N, Lesmana LA, Noer HMS (Eds). *Buku Ajar Ilmu Penyakit Hati.* Jakarta: Jaya Abadi; 2007:p.301-305.
4. Matsuzawa N, Takamura T, Kurita S, Misu H, Ota T, Ando H, et al. *Lipid-induced oxidative stress causes steatohepatitis in mice fed an atherogenic diet.* Hepatology; 2007;46:1392–403.
5. Sukandar, E. Y. *Sembilan Tanaman Obat Unggulan Hasil Uji Klinis Badan POM;* 2004. Diunduh dari: <http://www.beritabumi.or.id> 13 Maret 2015
6. Weibo, L. *Prospect for Study on Treatment of AIDS with Traditional Chinese Medicine;* 1995; 15(1): 3–9.
7. Wang, Y. H. *The Pharmacology and Application of Traditional Chinese Medicine.* Beijing: People 's Health Press; 1983.
8. Shukla,B., Visen,P.K., Patnaik, G.K and Dhawan,B.. *Choleretic Effect of Anrographolide in Rats and Guinea Pigs.* Planta Med; 1992.
9. Neuschwander-Tetri BA, Caldwell SH: Non- alcoholic steatohepatitis:summary of an AASLD Single Topic Conference. Hepatology; 2003; 37: 1202–1219.
10. Takahashi Y, Fukusato T, Inui A, Fujisawa T. *Pediatric nonalcoholic fatty liver disease/nonalcoholic steatohepatitis.* Nihon Rinsho 2012;70(June):1827–34. Diunduh dari: <http://www.ncbi.nlm.nih.gov/pubmed/23971751> 13 Maret 2015
11. Nurman a, Huang M a. *Perlemakan hati non alkoholik;* 2007;26(4):205–15.
12. Amarapurkar DN, Hashimoto E, Lesmana LA, Sollano JD,et al ., *How common is non-alcoholic fatty liver disease in the Asia– Pacific region and are there local differences of Gastroenterol Hepatol;* 2007;22:788–793.
13. Salt WB. *Nonalcoholic Fatty Liver Disease (NAFLD): A Comprehensive Review.* J Insur Med; 2004; 36: 27-41.

14. McAvoy NC, Fergusson JW, Campbell IW, Hayes FC. *Non-Alcoholic Fatty Liver Disease: Natural History, Pathogenesis and Treatment*. Br J Diabetes Vasc Di; 2006; 6(6):251-60.
15. Sherlock S & Dooley J. *Nutritional and metabolic liver disease*. Dalam: Sherlock S & Dooley J, penyunting. *Disease of the liver and biliary system*. USA: Blackwell Science; 1997. 427-33.
16. Charlton, M. *Liver Transplantations : Challenging Controversies and Topics*. 1st edition. Humana Press. Chapter 10. Page 169-190. Diunduh dari: usagiedu.com/articles/nafld05/nafld05.pdf. 15 Maret 2015
17. Levine JE, Schwimmer JB. *NAFLD/NASH in Children*. In: Geoffrey CF, Jacob Pauline D, Arthur JM, penyunting. *Fatty liver disease NASH and related disorders*. Blackwell Publishing; 2005. 229-40.
18. Day PC & Daly KA. *NASH is a genetically determined disease*. In: Geoffrey CF, Jacob Pauline D, Arthur JM, penyunting. *Fatty liver disease NASH and related disorders*. USA: Blackwell Publishing; 2005. 69-70. 32.
19. Charlton M. *Nonalcoholic fatty liver disease: A review of current understanding and future impact*. Clin Gastroenterol Hepatol ; 2004;2: 1048-58. 33.
20. Angulo P. Nonalcoholic fatty liver disease. N Engl J Med; 2002; 346: 1221-31
21. Sanyal JA. *The pathogenesis of NASH: human studies*. In: Farrel CG, Jacob Pauline D, Arthur JM, penyunting. *Fatty liver disease NASH and related disorders*. USA: Blackwell Publishing; 2005. 76-90.
22. Fromenty B & Pessayre D. *Mitochondrial injury and NASH*. In: Farrel CG, Jacob PD, Arthur JM, penyunting. *Fatty liver disease NASH and related disorders*. USA: Blackwell Publishing; 2005. 132-42.
23. Pessayre D. *Role of mitochondria in non-alcoholic fatty liver disease*. Am J Gastroenterol; 2007; 22: S20-7
24. Ding X, Saxena NK, Lin S, Srinivasan S, Anania FA. *The roles of leptin and adiponectin : A novel paradigm in adipocytokine regulation of liver fibrosis and stellate cell biology*. Am J Pathol; 2005; 166: 1655-69.
25. Kirsch R. Recent advances. In: Farrel CG, Jacob PD, Arthur JM, penyunting. *Fatty liver disease NASH and related disorders*. Blackwell Publishing; 2005. p. 290.
26. Hasan I. *Perlemakan Hati Non Alkoholik*. In: Sudoyo AW, Setyohadi B, Alwi I, Simadibrata MK, Setiati S.(Eds). *Buku Ajar Ilmu Penyakit Dalam*. 4th ed .

Jakarta: Pusat Penerbit Ilmu Penyakit Dalam FK UI; 2006.

27. Choudhury J, Sanyai A. Clinical aspects of fatty liver disease. *Semin Liver Dis*; 2004; 24: 349-62.
28. Schaffer A, Scholmerich J, Buchler C. *Mechanism of disease adipocytokines and viseral adipose tissue emerging role in nonalcoholic fatty liver disease*. *Am J Gastroenterol*; 2005; 2: 273-80.
29. Bellentani S, Scaglioni F, Marino M, Bedogni G. *Epidemiology of Non-Alcoholic Fatty Liver Disease*. *Dig Dis*; 2010; 28:155-161.
30. Widyawati T. *Aspek Farmakologi Sambiloto (Andrographis paniculata Nees)*. *Maj Kedokt Nusantara*; 2007;40(3):216–22.
31. Hidalgo M a, Hancke JL, Bertoglio JC, Burgos R a. *Andrographolide a New Potential Drug for the Long Term Treatment of Rheumatoid Arthritis Disease*; 2013.
32. Endang, TH. , Endang SW, Ficky FS. *Pengaruh Pemberian Tepung Daun Kelor (Moringa oleifera) Varietas Nusa Tenggara Timur (NTT) Terhadap Kadar Serum Kolesterol LDL Tikus Wistar (Rattus novergicus strain wistar) Dengan Diet Aterogenik*. *Jurnal Kedokteran Brawijaya*; 2011.
33. Muliarta IKG, Sriwahyuni E. *Oral Comsumption of Combined Vitamin C and E Repair Liver Damage Due to Subchronic Exposure to Cigarette Kretek Pemberian Kombinasi Vitamin C dan E Peroral Memperbaiki Kerusakan Hepar Akibat Paparan Rokok Kretek Sub Kronik.*; 2000
34. M.Iqbal Arief, dkk. *Potensi Bunga Karamunting (Melastoma malabathricum L.) Terhadap Kadar Kolesterol Total dan Trigliserida Pada Tikus Putih Jantan Hiperlipidemia Yang Diinduksi Propiltiourasil*. Program Studi Fakultas Kedokteran Unlam. Prestasi. Vol.1. No.02 (ISSN 2089-9122); 2012
35. Adiyati, P. N. 2011. *Ragam Jenis Ektoparasit pada Hewan Coba Tikus Putih (Rattus norvegicus) Galur Spraque Dawley*. Skripsi Fakultas Kedokteran Hewan Institut Pertanian Bogor. Bogor
36. Sirois, M. 2005. *Laboratory Animal Medicine: Principles and Procedures* Mosby, Inc.United States of America. Halaman 43 – 45.
37. Schreuder, TCMA, Verwer BJ, Nieuwkerk CMJV, Mulder CJJ. *Nonalcoholic fatty liver disease: An overview of current insights in pathogenesis, diagnosis and treatment*. *World J Gastroenterol*. 2008;14 (16):2474–86.6
38. Ganong, W.F. *Fisiologi Kedokteran*, Edisi ke-17, Penterjemah Wijayakusuma, M.Dj., Penerbit EGC. Jakarta; 1995,

39. Sudiono, J. B., Kurniadhi, Hendrawan, A., dan Djinantoro, B.. *Ilmu Patologi*. Penerbit EGC. Jakarta; 2003
40. Khan, M.T.H. "Traditional medicines and plant drugs in hepatic diseases". Hamdrad Medicus 14-16; 2001
41. Kamdem, R.E.and Ho, C.T.2002. Transfer Allylic Hidrogen as the Antioxidant Mechanism of Diterpene Lactone Andrographolide. Anahaeim. http://ift.confex.com/ift/2002/technprograme/paper_13567.html (11ktober 2015) \
42. Trivedi, N. and Rawal, U. M. "Hepatoprotective and toxicological evaluation of Andrographis paniculata on severe liver damage". Indian J Pharmacol.; 2000 32:288-293
43. Rosai, Juan. *Rosai and Ackerman's Surgical Pathology*. ¹⁰ed. New York: Mosby Elsevier; 2011